

**MANGO HILL INFRASTRUCTURE
DEVELOPMENT CONTROL PLAN**

Precinct Plan No. 015

for

Town Centre Frame “CF” Precinct

North Lakes Development

10 July 2003

(Approved by Council on 10 July 2003)

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1.0 Introduction

- 1.1 The Mango Hill Infrastructure Development Control Plan (DCP) provides for the creation of a precinct within any part of the DCP area chosen by the principal developer. The principal developer may then prepare a precinct plan and lodge it with Council for approval in accordance with the relevant provisions of the DCP.
- 1.2 The purpose of a precinct plan, as provided for in the DCP, is to show in indicative terms more detail for a planning area within one land use element of the DCP Structure Plan or across a number of elements. This planning area is created to allow for a more detailed interpretation of a part of the structure plan.
- 1.3 The principal developer has created a precinct to be known for planning purposes as the *Town Centre Frame “CF” Precinct*. This document constitutes the precinct plan for the Town Centre Frame “CF” Precinct.
- 1.4 The location of the precinct within the DCP area is shown on Figure 1. The area of the precinct is approximately 0.5 hectare although, consistent with DCP requirements, the areas and boundaries shown on the plan are only notional.
- 1.5 Where a discrepancy arises between the performance criteria of this precinct plan and the requirements of the DCP or Mango Hill Infrastructure Agreement, the requirements of the DCP or Infrastructure Agreement will prevail.

2.0 Structure Plan Context

The precinct is located in the southern part of the DCP area. The precinct is contained within a Town Centre block broadly bounded by the future major road currently referred to as the East West Road to the north, The Corso to the east, North Lakes Drive to the south and road extending north from the future entry to Westfield to the west (referred to as the North South Link Road). The precinct is located in the north-west corner of this Town Centre block. The location of the precinct within the Structure Plan is shown on Figure 2.

3.0 General Desired Environmental Outcomes

In relation to the predominant land use element of Town Centre Frame Area, the DCP states the following general desired environmental outcomes:

DCP, Cl.5.1.1:

- (a) *To reinforce the role of the town centre core by providing a range of complementary employment opportunities, facilities and services typically not provided in the core.*

- (b) *To provide opportunities for mixed use development and employment as part of the Major Employment Centre in locations highly accessible to the town centre core, the MIBA and the existing and planned regional transport network.*
- (c) *To expand the choices in housing styles available in the DCP area by providing a range of medium and high density residential development.*

4.0 Planning Intent

Clause 5.2 of the DCP provides an outline of the planning intent for Town Centre Frame Area, including the following summary:

“The town centre frame is intended to provide support facilities and services to the town centre core, and to provide a transition between the town centre core and the MIBA and urban residential areas. The town centre frame will accommodate higher levels of activity than the surrounding land use elements but a slightly lower level of activity than the town centre core. This differentiation will be reflected in the spatial arrangement, type and intensity of land uses and the physical form of development.....

The overall emphasis in the development of the town centre frame is to be upon flexibility, accessibility and integration of activity and the built form with the town centre core, transport system, open space and the path network.”

5.0 Development Concept

5.1 Development Context

The Town Centre Frame 'CF' Precinct is situated within the town centre frame in proximity to and north of the town centre core.

The DCP (section 12.7) anticipates that a community centre in North Lakes will be provided in the town centre frame. The Town Centre Frame 'CF' Precinct is the preferred location for that facility and has been identified as such by Council (Council Minute Page 03/1059-60). It is expected that once the land has been transferred to Council as required by the rezoning conditions, Council will develop it for the purpose of a community centre.

Significant factors likely to influence development of the precinct include:

- the proximity of the Town Centre Core, and the major shopping development area;
- the proximity to the North Lakes Centre fronting The Corso;
- the development of important community facilities such as the public transit centre;
- the connection role to be performed by The Corso in linking the town centre core with the town centre frame and to Lake Eden;

- the proximity to a major pedestrian/cycle corridor connecting to the residential development;
- the future transport function of the East West Road.

Having regard to these factors, development in the precinct will need to:

- (i) achieve strong functional relationships with developments in adjoining and adjacent precincts;
- (ii) facilitate connectivity with adjoining precincts;
- (iii) provide for high levels of pedestrian activity focussed on the streets, ;
- (iv) define a system of urban spaces which are both functional and attractive;
- (v) respond appropriately to community expectations of the facilities and services likely to be found in this important town centre location.

5.2 Concept Overview

5.2.1 General Character

The precinct is located in a functionally and visually prominent part of the town centre. It is an important link between the town centre core, the balance of the town centre frame, and Lake Eden in terms of community functions, streetscape and visual connections.

The character of development in this area will be community-focussed, intense and highly urbanised. The nature of development will contribute to high levels of activity for extended hours of the day and night. Street furnishings, plantings, paving materials and lighting will enhance the environment.

Buildings in the precinct will address and may be built to the street frontages while presenting attractive facades to the car parking areas and the boundaries with adjoining precincts. Pedestrian access from the street will be 'at grade' to encourage the use of the facilities. The street system is to be the primary focus for pedestrian movements in the precinct, rather than less formal movements between developments, within the precinct and on adjoining precincts .

5.2.2 Development fronting the East West Road

Development framing the East West Road will provide a defined edge to the street, particularly at the intersection with The Corso. Development at The Corso intersection will be characterised by a landmark building similar in scale to the buildings at the intersection of North Lakes Drive and The Corso (see Precinct Plan 008 – Town Centre Frame ‘A’ Precinct)

Development along the frontage of this precinct will provide a land use and development transition from the mixed use precincts to be developed to the east of this precinct to the residential development to the north-west (Southern Residential Precinct). The character of development will provide for community activities within a town centre environment.

In order to emphasise of the street system, in lieu of the informal use of car parking areas for pedestrian movements between developments, continuous

pedestrian shelter is also to be provided, preferably as awnings over the footpaths, with development fronting this street.

5.2.3 Development fronting North South Link Road

Development framing the North South Link Road will provide a defined edge to the street, particularly at the intersection with North Lakes Drive. This intersection will be the second entry to the development in the Town Centre Core. Development at the North Lakes Drive intersection will be characterised by a building similar in scale to the buildings fronting North Lakes Drive to the east of this intersection.

Development along the frontage of this precinct will provide a land use and development transition from the mixed use precincts to be developed the north to the residential development to the north-west (Southern Residential Precinct). The character of development will provide for community activities within a town centre environment.

In order to emphasise of the street system, in lieu of the informal use of car parking areas for pedestrian movements between developments, continuous pedestrian shelter is also to be provided, preferably as awnings over the footpaths, with development fronting this street.

6.0 Precinct Plan

6.1 Introduction

Figure 3 provides a more detailed interpretation of the land use planning and development intents for a part of the North Lakes Structure Plan. The key principles which have determined the urban design structure for the precinct plan are explained below.

6.2 Land Use Pattern

6.2.1 Background

In accordance with section 2.3.2(f) of the DCP, the desirable and undesirable land uses are to be identified in generic terms during the preparation of this precinct plan. The desirable land uses are community uses. The sector plans stemming from this precinct plan will finalise the specific land use rights as required by section 2.4.9 of the DCP.

Figure 3 - Precinct Plan Map, to be read as part of this precinct plan, establishes development principles and requirements for development in the precinct.

This precinct plan anticipates the land uses will be limited to the specific purpose required by the Development Control Plan and the rezoning conditions being a community centre.

6.2.2 Built Form

The built form of development on the intersection of East West Road and the North South Link Road should create a landmark that complements the character of the development in the town centre core but allows for the transition away from the Town Centre Core.

The architecture of buildings in both frontages should be open and accessible, while conveying the strong characteristics of the Queensland vernacular. The overall design character of buildings will be reinforced by the finishes, colours and details that combine to create a distinctive precinct within a modern town centre with a strong sense of place.

Integration of building design and urban spaces with appropriate lighting, signage and landscaping will contribute to this desired sense of place.

Buildings will exhibit an architecture in keeping with a town centre location. The architecture and streetscape will be complementary. The upper levels of tall buildings may be stepped back, if required to minimise the impact of bulk, form and over-shadowing on the streetscape and pedestrian environments in the immediate vicinity.

The desired character of the street environment, along both frontages, is to be achieved through the variety of characteristics of each individual building. However, the desired streetscape requires some consistent elements, such as awnings over footpaths to achieve architectural and landscape harmony.

6.2.3 Landscaping

The Landscape Concept Plan provides a framework for the creation of a distinctive urban setting and town centre character through an integrated overall approach incorporating landscaping and urban development within the town centre frame (refer Figure 4 - Landscape Concept Plan). Key elements of this concept plan are described below.

- .1 The verges of the East West Road will be consistently framed with appropriate landscaping and canopy trees to provide a safe and shaded pedestrian environment. Landscaping treatments in the East West Road will reflect the role and function of the street, while also providing a filter to the impacts of the anticipated traffic flows.

Landscaping will be used to provide an accent to buildings in the precinct, rather than as a screen.

- .2 The verges of the North South Link Road will be consistently framed with appropriate landscaping and canopy trees to provide a safe and shaded pedestrian environment. Landscaping treatments in the North South Link Road will reflect the role and function of the street, while also providing a filter to the impacts of the anticipated traffic flows.

Landscaping will be used to provide an accent to buildings in the precinct, rather than as a screen.

6.2.4 Landscaped Car Parking & Service Areas

Development in the precinct is likely to initially require surface car parking to be located centrally and screened it from the surrounding street environments. The car parking area should desirably be screened by buildings but will require sufficient visibility into them from the surrounding streets and buildings to improve safety and security. In the longer term, it is anticipated that these car parking areas may be redeveloped into development sites that include structured car parks.

For reasons of environmental quality and urban amenity, it is important these large external areas be planted with canopy shade trees and integrated with the planned network of landscaped pedestrian and road frontage treatments.

The extensive use of shade trees and screening through the car parking areas will provide visual and physical relief from heat and glare, as well as contribute to the creation of a landscape setting. Car parking areas may include appropriate shade structures which are integrated within the overall development.

With the movement of people through these parking areas, the design and landscape treatment of 'back of house' and service areas are important. While such areas should be screened, landscaping treatments should not diminish the usability of these car parking areas due to personal safety concerns of users.

The community facility will be connected by pathways to the linear park and its major bicycle/pathway system. The location of these facilities offers convenience for motorists with direct access off the main north-south access spine of Discovery Drive. Careful attention will be given to the detailed planning of the community facility at the sector planning stage, to ensure appropriate management of traffic and protection of the amenity of adjacent urban development.

6.3 Transport and Circulation System

6.3.1 East West Road

The East West Road is intended to develop ultimately as the principally through route in the Town Centre so as to ensure the urban main street created in North Lakes Drive is not compromised by traffic that has a destination other than the Town Centre. It will also provide linkages to the MIBA and other destinations beyond the town centre.

6.3.2 North South Link Road

The North South Link Road is intended to develop ultimately as one of the main roads connecting the residential areas to the Town Centre Core. It will connect to the East West Road to also provide linkages to the MIBA and other

destinations beyond the town centre.

6.3.3 Vehicular Access

Parking and vehicular access must be provided, designed and located to ensure convenient and safe parking and vehicular access to all parts of the development within the precinct.

Vehicular access to the precinct is provided via:

- (i) the proposed extension north from North Lakes Drive referred to as the North South Link Road;
- (ii) car park access from the proposed East West Road as it passes along the northern boundary of the precinct.

Vehicular access will be constructed to Council standards. These accessways will ensure adequate sight lines are maintained to roads and pedestrian paths.

6.3.4 Car Parking

Car parking will be accommodated in a number of surface car parks as well as possible structured parking in the later stages of development. Surface car parking will include the provision of shade trees, and possibly the use of shade structures within selected areas of the car park. Any shade structures will be integrated with the landscaping. Structured parking, if developed, will be designed to complement the overall built form appearance of the precinct. Vehicles in structured car parks will be significantly screened when viewed from public roads

The final provision of car parking spaces will be resolved with the assessment of development applications to be made following approval of the sector plan(s).

6.3.3 Pedestrian & Cycle Access

An integrated pedestrian network is proposed to link the precinct with the balance of the town centre frame, the town centre core and Lake Eden. These pedestrian links will be attractively landscaped, with an emphasis on convenience and safety.

Access points via car parking areas at the rear of the development must be clearly identified and designed to maximise safety and convenience.

The built form within the precinct must allow a high level of access and convenience for pedestrians, cyclists and motor vehicles, while minimising potential conflict points between pedestrians and vehicles.

6.4 Engineering Services

Urban infrastructure will be extended to the Town Centre Frame 'CF' Precinct in accordance with the infrastructure agreements between the Council, the State Government and the principal developer. Development within the precinct will be serviced prior to the commencement of the intended use. A summary of key engineering services is provided below.

6.4.1 Sewerage

Sewerage infrastructure will be provided by a gravity sewer to the north-west of the precinct to connect to the Pine Rivers Shire Council reticulation system.

6.4.2 Water Supply

The major water supply main is to be located in the proposed extension of East West Road along the northern boundary of the precinct and water reticulation is able to be provided from either street frontage.

6.4.3 Energy and Communications

Electricity supply will be provided in all streets fronting the precinct by Energex or another appropriate supplier of electricity by underground cable. Gas services will be provided in all streets fronting the precinct once an agreement has been reached with an appropriate supplier of gas services.

Communications and cable services will be installed underground. Communication towers are not proposed to be located within this precinct.

6.5 Stormwater Management

The precinct is part of the Saltwater Creek catchment and generally drains to the north. The precinct is within the area of the Tributary C Stormwater Management Plan and stormwater must be managed in accordance with that plan.

7.0 Design Intents and Performance Criteria – Town Centre Frame Land Use Elements

7.1 Introduction

The following design intents and performance criteria for various design elements are intended to complement and expand upon the design and siting measures provided in Section 5.4 of the DCP. The supplementary performance criteria established in the precinct plan, together with the measures in the DCP Section 5.4, provide the basis for a comprehensive approach to formulation of the Town Centre Frame 'CF' Sector Plan(s).

Compliance with the design and siting measures contained in the DCP and the design intents and supplementary performance criteria established in this precinct plan will achieve an acceptable level of performance in the planning, design and development of the Town Centre Frame 'CF' Precinct.

7.2 Building Setbacks

7.2.1 Objectives

- .1 To ensure that building are positioned to achieve the streetscape character outcomes required by this precinct plan and the DCP.*

7.2.2 Performance Indicators

- (a) For all development within this precinct, the building setbacks are to:
 - (i) include variations so as to ameliorate the visual effects of building length and bulk;
 - (ii) ensure that any medium or high rise buildings will include a podium base to create a desirable pedestrian environment.
 - (iii) generally zero set back for buildings fronting the East West Road and the North South Link Road are encouraged;
 - (iv) building frontages to the streets must be open and may be varied through the use of wide entries or colonnading or other similar treatments which invite the public into the site without losing the definition of the street edge;
 - (v) development in the precinct will provide clearly defined pedestrian and vehicular access to the street environment;
 - (vi) development is to be sensitive to issues of sunlight penetration to urban outdoor areas; and
 - (vii) any medium or high rise buildings will include a podium base of two storeys with the podium defining the edge of the street to create a desirable pedestrian environment.

7.3 Site Coverage

7.3.1 Objectives

- .1 *To ensure the proposed finished levels of activities within the precinct take account of the proposed finished levels of other activities within the precinct.*
- .2 *To encourage a high intensity of land uses and building density within the precinct in order to establish vibrancy, vitality, viability and efficiency of the Town Centre as a commercial and social centre for a new town and as a focus of the Shire's northern Major Employment Centre.*

7.3.2 Performance Indicators

- (a) The following measures relating to building site coverage should be achieved for all development:
 - (i) Buildings may occupy a total site within the town centre frame, providing that:
 - a) development is in context with, and visually compatible with the appearance of, any neighbouring buildings;
 - b) any required pedestrian thoroughfare is accommodated within the site;
 - c) adequate pedestrian facilities including pedestrian shelters are provided at ground level;
 - d) open space is provided in accordance with the infrastructure agreement;
 - e) sufficient on-site car parking is provided.
 - (ii) Buildings are to maintain a high level of accessibility for pedestrians to land use elements of the town centre frame; and
 - (iii) Buildings are to maintain sufficient openness to achieve a high degree of environmental, visual and landscape amenity for pedestrians and land use elements.

7.4 Building Design

7.4.1 Objectives

1. *To promote building designs which minimise undesirable visual impacts of bulk and scale.*
2. *To enhance public safety and convenience in the design of buildings, pathways, civic spaces and public car parking facilities, particularly given the intention of the precinct to function over extended hours.*
3. *To develop a high quality pedestrian environment with vital and attractive street frontages and attractive and useable key urban spaces.*

7.4.2 Performance Indicators

- (a) For all developments within the precinct, the building designs are to:
- (i) Contain building forms which include:
 - continuous pedestrian shelter for the frontage to a pedestrian thoroughfare whether provided as a free-standing shelter or as part of a building frontage;
 - open framed appearance possibly with layered façade treatments;
 - recessed windows in external walls;
 - outward orientation of shop fronts to provide integration with other frame uses;
 - articulation in lengthy facades;
 - continuous landscaping for the frontage to a pedestrian thoroughfare;
 - (ii) ensure the primary façade of a building preferably will address the street. The façade of a building addressing a street must be attractive and varied in keeping with adjacent development;
 - (iii) contain building forms which complement and integrate with those of adjacent buildings in terms of their architecture, height and bulk and generally will avoid the use of heavy mass building forms, particularly on sites fronting a pedestrian thoroughfare;
 - (iv) allow building heights generally will be low to medium rise with occasional high rise development on sites identified on a sector plan as being suitable for such development;
 - (v) include orientation to reduce energy requirements so that the long side of buildings align wherever possible on an east-west axis.
 - (vi) create a high level of visual interest befitting the important town centre location of the precinct;
 - (vii) be of a proportional scale to their surroundings;
 - (viii) reflect a distinctive contemporary architectural style, with all buildings sharing a palette of compatible finishes, colours and details that will create a strong sense of place;
 - (ix) ensure barrier free access for all pedestrians and for people with a disability; and
 - (x) ensure that each stage of development is designed as a complete architectural composition.

7.5 Landscaping/Townscaping

7.5.1 Objectives

1. *To ensure that townscape outcomes are of a high standard.*
2. *To ensure that landscaping provides visitors with a full range of visual clues for orientation, differentiation and direction to particular parts or activities within the precinct.*

7.5.2 Performance Indicators

For all development, townscape and landscape treatments are to:

- (i) provide adequate landscaped areas are to be provided to create a landscape theme consistent with, and extending the setting of, the town centre core, as well as to provide passive recreation space and to break up the scale of the buildings and car parking areas;
- (ii) allow landscaping/townscaping in pedestrian thoroughfares, streets and public spaces is to provide visual themes linking different activity areas within the town centre frame;
- (iii) in highly visible areas, such as those fronting pedestrian thoroughfares and streets in the town centre frame, are to be landscaped to provide a high degree of visual interest;
- (iv) include with landscaping for surface car parking areas is to include advanced shade trees planted at a rate not less than 1 tree per 6 vehicle spaces, and screening trees and shrubs planted so as to screen car parking areas from roads and other areas readily accessible to the public;
- (v) include high quality urban art, including paving patterns, water features and sculptures, are encouraged to enhance the architecture and landscape of the town centre frame.
- (vi) provide a cohesive landscape framework and texture within which buildings and other functional elements of the precinct may be integrated;
- (vii) reflect a comprehensive approach to landscaping as a means of linking elements in the town centre frame with the town centre core, by creating a distinctive overall image of co-ordinated and planned development;
- (viii) provide outdoor fittings and furniture together with opportunities for the strategic location of selective works of public art within the precinct. Individual elements are to be of good quality materials and design, and should achieve a strong design continuity with the architecture and landscape planting;
- (ix) frame key vistas to and from the town centre and Lake Eden;
- (x) mitigate the visual impact of lengthy building facades and building bulk;

- (xi) ensure the appropriate pedestrian treatment is provided within the streetscape to match the level of development fronting the pedestrian environment; and
- (xii) ensure services such as electricity substations and transformers are fully screened and landscaped in a way which does not impact on the streetscape.

7.6 Car Parking, Service Areas & Loading Docks

7.6.1 Objectives

1. *To provide attractive, safe and efficient car parking and building services and circulation systems within the precinct.*

7.6.2 Performance Indicators

- (a) For all development in the precinct, the car parking areas are to:
 - (i) ensure that large expansive car parking areas are sited so as to effectively screen their impact upon pedestrian thoroughfares, the street frontage of the site and from other areas readily accessible to the public;
 - (ii) ensure that loading docks and service vehicle storage areas are screened to ameliorate such impacts as unsightly appearance, noise, headlight glare and unpleasant odours;
 - (iii) ensure that pedestrian and vehicle circulation is designed to reduce potential conflict points;
 - (iv) include appropriate lighting is provided for after hours safety and security purposes;
 - (v) provide a circulation system for transport vehicles such as taxis and buses are to be designed to be convenient and reduce potential conflicts with pedestrians and other vehicles;
 - (vi) provide a strong landscape edge to all car parking areas, in particular where they abut road frontages;
 - (vii) provide adequate car parking in locations convenient and accessible to the main activity areas.
 - (viii) provide opportunities for shared use of car parking;
 - (ix) provide car parking areas that are responsive to the topography of the precinct; and
 - (x) provide convenient and attractive pedestrian access to public transport facilities, seating and shelter facilities.
 - (xi) provide adequate areas for staff carparking which will be specifically designated and are available for staff park all year round.
 - (xii) provide a safe, convenient, direct and attractive dedicated pedestrian, pathway between each pedestrian access of the development and the landscaped carpark area.
 - (xiii) provide sufficient vehicle spaces, conveniently located, for emergency vehicles;

- (xiv) provide sufficient vehicle spaces, conveniently located, for people with disabilities;
- (xv) provide pedestrian route access through the carpark for people with disabilities;
- (xvi) ensure that the car parking, service vehicle and access systems are capable of being used at a level of safety consistent with community expectations with emphasis on the safety of pedestrians;
- (xvii) ensure that the car parking, service vehicle and access systems are capable of being used without causing unreasonable congestion on the external road system, and without causing unreasonable detriment to the local community through such effects as excessive on-street car parking, noise generation, or traffic intrusion into adjacent streets;
- (xviii) ensure for traffic-generating developments with access via signalised intersections or roundabouts the dedication of sufficient land as public roadway to ensure lawful priority of traffic movements with respect to the Traffic Act;
- (xix) ensure driveways satisfy the basic traffic design criteria for all intersections with regard to driver behaviour, safety of pedestrians and vehicle characteristics;
- (xx) ensure entry and exit driveways provide for queues of vehicles so that queues do not disrupt traffic operations on the external streets;
- (xxi) restrict vehicles to low speeds in the vicinity of pedestrian activity achieved through use of appropriate road geometry or physical devices designed to limit speed;
- (xxii) provide sight distances, appropriate for the likely operating speeds in all areas of potential pedestrian/vehicle and vehicle/vehicle conflict;
- (xxiii) ensure no reversing of vehicles, particularly service vehicles, shall occur in areas of high pedestrian activity;
- (xxiv) ensure on-site traffic congestion does not impact on the external traffic system;
- (xxv) have minimum and maximum gradients of car parking areas determined on the basis of the type of surface, vehicle performance, user comfort, likely operating speeds, the manoeuvrability of shopping trolleys and prams and access for people with disabilities;
- (xxvi) provide sufficient spaces for bicycles and motorcycles conveniently located for users;
- (xxvii) provide sufficient bicycle lockers for staff to promote cycling to and from work;
- (xxviii) provide for servicing by commercial vehicles including the largest service vehicle likely to access the site;
- (xxix) be designed, constructed and maintained so that the pavements are structurally sufficient for the anticipated future traffic and landscaping needs; and
- (xxx) have surface and underground stormwater drainage systems which satisfy the objectives and design philosophy as described in the Queensland Urban Drainage Manual.

- (b) For all development, the building services areas are to be suitably located and designed.
- (c) For all developments, applications must be supported with reports by a Registered Professional Engineer with experience in traffic engineering. Any traffic report will include:-
 - (i) A review of the impact on public roads in the precinct for all stages of development of those public roads with traffic operating conditions based on an appropriate planning horizon-year (minimum 10 years).
 - (ii) Estimates of traffic generations with appropriate directional distributions during selected peak design periods.
 - (iii) Predictions of operating conditions with and without the proposed development, including recommendations on external roadworks upgrading requirements relevant to that development.
 - (iv) An assessment of the access, circulation and parking arrangements proposed, particularly with respect to their compliance with the precinct and sector plan , including certification of compliance and justification for any specific non-compliance.
 - (v) A list of all of the assumptions made in the preparation of the report, and a list of the design parameters adopted in the technical analysis.
 - (vi) Consideration of traffic operations, parking and any temporary works required during construction.
- (d) For all developments, the design of the car park including pavements and stormwater drainage must be undertaken by a Registered Professional Engineer of Queensland who must certify compliance with the applicable codes for these development works. The construction must also be inspected by the Registered Professional Engineer of Queensland who must certify that the construction has been undertaken in accordance with the approved car park design.

7.7 Signage, Colours and Materials

7.7.1 Objectives

1. *To create a distinctive, vibrant, urban landscape appropriate to the Town Centre as the physical, social and commercial focus for the North Lakes community.*
2. *To provide a coordinated system of signs that make it easy for the public to orient themselves and identify key attractions and facilities, as well as contributing to the overall visual identity of the Town Centre.*

7.7.2 Performance Indicators

For all development in the precinct, the design of the signage must:

- (i) ensure the form, scale, materials and colour selection of signage must be in keeping with the character of the town centre frame and must not dominate the urban landscape at ground level;
- (ii) provide for roof-top and pylon signage may be permitted where it lends to the town centre frame image of an intensive activity centre;
- (iii) provide for signage which allows for materials and colours related to potential end users' commercial requirements modified as necessary to ensure a degree of harmony between development sites and the overall visual character of the town centre frame;
- (iv) ensure colours for external walls and surfaces of buildings in the town centre frame are compatible with the overall visual character of the town centre frame;
- (v) limit the use of highly reflective finishes.
- (vi) ensure overall unity and harmony in major materials and colours in buildings and exterior signage throughout the precinct;
- (vii) ameliorate the visual impact of lengthy facades through combinations of materials and colours coordinated with building detail treatments and landscaping themes; and
- (viii) ensure that external graphics contributes to the visual character of the streetscape and are designed as an integral element of the architectural design.
- (ix) not impact on traffic safety

In addition, the following measures should be achieved:

- (a) Architectural graphics may be designed as part of the architectural character of development in the precinct; and
- (b) Signs should be relative to the scale and proportion of buildings.

8.0 Environmental Management Objectives

8.1 Stormwater Discharge

Objectives

To ensure that stormwater infrastructure, constructed within the catchment of Tributary C, is to be designed to meet agreed discharge standards for specific stormwater pollutants and that peak flow regimes are at pre-development levels.

Performance Indicators

Water discharged must meet the requirements of Environmental Protection Policy (EPP) Water, and in particular, must be designed to achieve the following Annual Mean Concentrations at Kinsellas Road:

- Total Phosphorous - 0.1 mg/l
- Total Nitrogen - 0.75 mg/l
- Suspended Solids - 50 mg/l

The design parameters for peak flows must not exceed the values in the Stormwater Management Plan approved by Council.

8.2 Flora & Fauna

Objectives

To re-establish fauna habitats and wildlife corridors.

To re-establish stands of native vegetation

Performance Indicators

Retain significant remnant stands of native vegetation in areas of open space where reasonable and practicable.

Establishment of new stands of appropriate native vegetation which incorporates food species for indigenous fauna.

8.3 Air Quality

Objectives

To ensure that people are protected from undue pollution of the air from smoke, dust, odour, fumes and gases generated by development within the precinct.

Performance Indicators

Air quality must meet the requirements of Environmental Protection Policy (EPP) Air.

During construction of the precinct:

- infrastructure complaints in excess of one per week may indicate unacceptable work practices. For the purposes of this clause, a complaint is one resulting in the issue of an abatement notice under EPP (Air); and
- construction activities are to comply with Council's Policy LP32.

8.4 Noise

Objectives

To ensure noise generated is not unreasonable and does not cause nuisance to adjacent residential properties.

Performance Indicators

Noise generated from development is reasonable as provided by the Environmental Protection Policy (EPP) Noise.

Noise generated from development which is unreasonable is abated as required by EPP (Noise).

During construction of the precinct infrastructure complaints in excess of one per week may indicate unacceptable work practices. For the purposes of this clause, a complaint is one resulting in the issue of a noise abatement notice under EPP (Noise).

Provision of traffic noise amelioration in accordance with Council Policy LP25.

8.5 Lighting

Objectives

To ensure that lighting associated with development does not create a nuisance, particularly at residential properties.

Performance Indicators

No person will cause, carry out or erect a light source in such a manner that light emanating from the source is a nuisance.

All lighting other than public lighting (e.g. road lighting) is to comply with AS42821997 *Control of the obtrusive effects of outdoor lighting*. The curfew hours applicable to this precinct are to be 10pm - 6am, unless otherwise varied by a sector plan or Council resolution.

9.0 Special Design Criteria

During the course of development and as contemplated by the DCP, variations to Council's existing development standards are anticipated and will be considered on their technical merits with reference to the intents and performance criteria outlined in previous sections of this precinct plan. Technical details and supporting information on design variances will be recorded in Council's *North Lakes Register of Alternative Acceptable Design Solutions*.

10.0 Infrastructure Obligations of the Principal Developer

10.1 Infrastructure to be Provided

The infrastructure required to be provided by the principal developer to serve the sector includes internal and external infrastructure provisions in accordance with the Mango Hill Infrastructure Agreement 1999 (MHIA) and agreements made with the State Government in accordance with the DCP. These obligations are summarised as follows:

10.1.1 Roads

Unless already constructed, construct the following roads including carriageways, stormwater drainage, verges, bus setdowns, footpaths, bikeways, landscaping, traffic control devices and street lighting as applicable. Any reference to initial construction in this section is a reference to construction approved by Council in accordance with the rezoning conditions and MHIA.

- .1 All internal roads and access streets;
- .2 Bikeways and pathways required along the road frontages in accordance with the MHIA.

The construction of the abovementioned infrastructure to the final standard is to be undertaken in accordance with the staging and timing outlined in the MHIA. The initial standard of construction referred to above will be undertaken to suit the rate of development of the sector. Where initial construction is not stated, the road is to be constructed to the standard described above to suit the rate of development of the sector.

10.1.2 Water

- .1 If not already constructed, construct a water supply network within the DCP area (including those sections of the mains shown on Figure 7), necessary to service the anticipated demand within this sector.
- .2 Make contribution towards water headworks and bulk water supply in accordance with the MHIA.

10.1.3 Sewerage

Construct a sewerage system to service the sector and make contributions towards sewerage headworks in accordance with the MHIA.

10.1.4 Park

The requirements for park provision throughout the DCP area are provided for in the MHIA. No area within this precinct will be dedicated as park.

10.1.5 Stormwater

The principal developer must comply with the provisions of the Stormwater Management Plan for Tributary C as approved by Council and construct stormwater management works so far as they relate to this sector. The provisions of the Stormwater Management Plan override Clause 45(a) of the planning scheme.

Stormwater management works so far as they relate to the sector are to be provided in accordance with the MHIA, Council's Design Manual and the Stormwater Management Plan for Tributary C.

In addition, the principal developer must construct stormwater drainage systems and stormwater management systems as required by the MHIA and the Environmental Protection (Water) Policy.

10.2 Infrastructure Affected by Development

Without the provision of additional infrastructure, the development of this sector may place demands on the following infrastructure:

- .1 roads external to the DCP area and the sector;
- .2 water supply infrastructure;
- .3 sewerage infrastructure;
- .4 stormwater;
- .5 parks;
- .6 electricity supply; and
- .7 communications systems.

The infrastructure described in clause 10.1, together with the obligations of the principal developer under the MHIA, is required to mitigate the adverse affects on such infrastructure.

10.3 Approval of State Government Infrastructure

There are no items of State Government infrastructure to be provided by the principal developer in conjunction with the development of the precinct.

A local bus service is being provided to service the precinct in accordance with the infrastructure agreement with Queensland Transport (MHIA-QT).

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10.4 How the Required Infrastructure relates to the Infrastructure Agreement

The MHIA describes the infrastructure which must be provided by the principal developer as part of its obligation to provide infrastructure, as envisaged by chapter 12 of the DCP. The works described in clause 10.1 are the principal developer's obligations under the MHIA in so far as they relate to this sector.

Infrastructure Agreements have been entered into by the principal developer with the Department of Main Roads and Queensland Transport. Any infrastructure requirements of those State Government departments relating to this sector will be provided in accordance with the existing agreements.

10.5 Program for Infrastructure Provisions

The principal developer will provide all the infrastructure referred to in clause 10.1 at times to satisfy the requirements of the MHIA which provides for the infrastructure to be constructed to meet the rate of development in the sector. Initial infrastructure works are anticipated to be constructed by 31st December 2003. The staging of the roadworks, where approved by Council, will be as described in clause 10.1.1 and the MHIA.

Except as described elsewhere in this Clause, no other works depend on the provision of this infrastructure.

Council is to use its best endeavours, including its powers of resumption if lawful, to obtain all necessary rights to permit the construction of water and sewerage infrastructure if such infrastructure is constructed on land external to the DCP area over which Council does not have such rights.

10.6 Estimated Water and Sewerage Demands

As required by the Infrastructure Agreement, the principal developer states as follows:-

- 10.6.1 For the purpose of assessing water supply capacity, the estimated number of Equivalent Tenements for this precinct is 12.5 ET;
- 10.6.2 For the purpose of assessing sewerage capacity, the estimated number of Equivalent Persons for this precinct is 37.5 EP.